

87-0291

X-MAS TREE CUT 500.

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

District 9


COAL NONFATAL


REPORT OF INVESTIGATION
(UNDERGROUND COAL MINE)

NONFATAL ROOF FALL

Beaver Creek Coal Company
Trail Mountain #9 Mine (ID No. 42-01211)
Orangeville, Emery County, Utah

October 21, 1987

Robert L. Baker 
Coal Mine Safety and Health Inspector


Donald B. Hanna (GOV. CONTACT)
Mine Safety and Health Specialist (Roof Control)

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Originating Office - Mine Safety and Health Administration
P.O. Box 856, 215 East Main, Price, Utah 84501
Jensen L. Bishop, Subdistrict Manager

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Abstract of Investigation

U.S. Department of Labor
Mine Safety and Health Administration

Authority—This report is based on an investigation made pursuant to the Federal Mine Safety and Health Act of 1977, Public Law 95-173, as amended by Public Law 95-164.

Section A—Identification Data

1. Title of investigation:

Nonfatal Roof Fall

3. Report release date:

May 27, 1988

5. Mine ID number:

42-01211

7. Town, County, State:

Orangeville, Emery, Utah

2. Date MSHA investigation started:

October 22, 1987

4. Mine:

Trail Mountain #9 Mine

6. Company:

Beaver Creek Coal Company

8. Author(s):

Robert L. Baker/Donald B. Hanna

Section B—Mine Information

9. Daily production:

760 tons

11. Underground employment:

39

13. Thickness of coalbed:

7 feet

10. Surface employment:

5

12. Name of coalbed:

Hiawatha

Section C—Last Quarter Injury Frequency Rate (HSAC) for:

14. Industry:

13.18

16. Training program approved:

Yes

15. This operation:

10.11

17. Mine Profile Rating:

N/A

Section D—Originating Office

18. Mine Safety and Health Administration
Coal Mine Health and Safety District No. :

9

Address:

P.O. Box 856, Price, Utah 84501

Section E—Abstract

Wednesday, October 21, 1987, about 6:30 p.m., a nonfatal roof fall accident occurred on the 6th west continuous miner section of the Trail Mountain #9 Mine, resulting in injuries to Randall Ralphs, section foreman and Charles D. Spears, shuttle car operator. The accident occurred when the men walked in front of the continuous mining machine to set a row of turn timber. As the two men entered the area a large bounce occurred causing a roof fall 3 feet thick and about 16 feet wide, trapping Spears and Ralphs under the fallen material. The accident was a result of the mine operators failure to follow the approved mining cycle sequence causing excessive pressures on the pillar being mined.

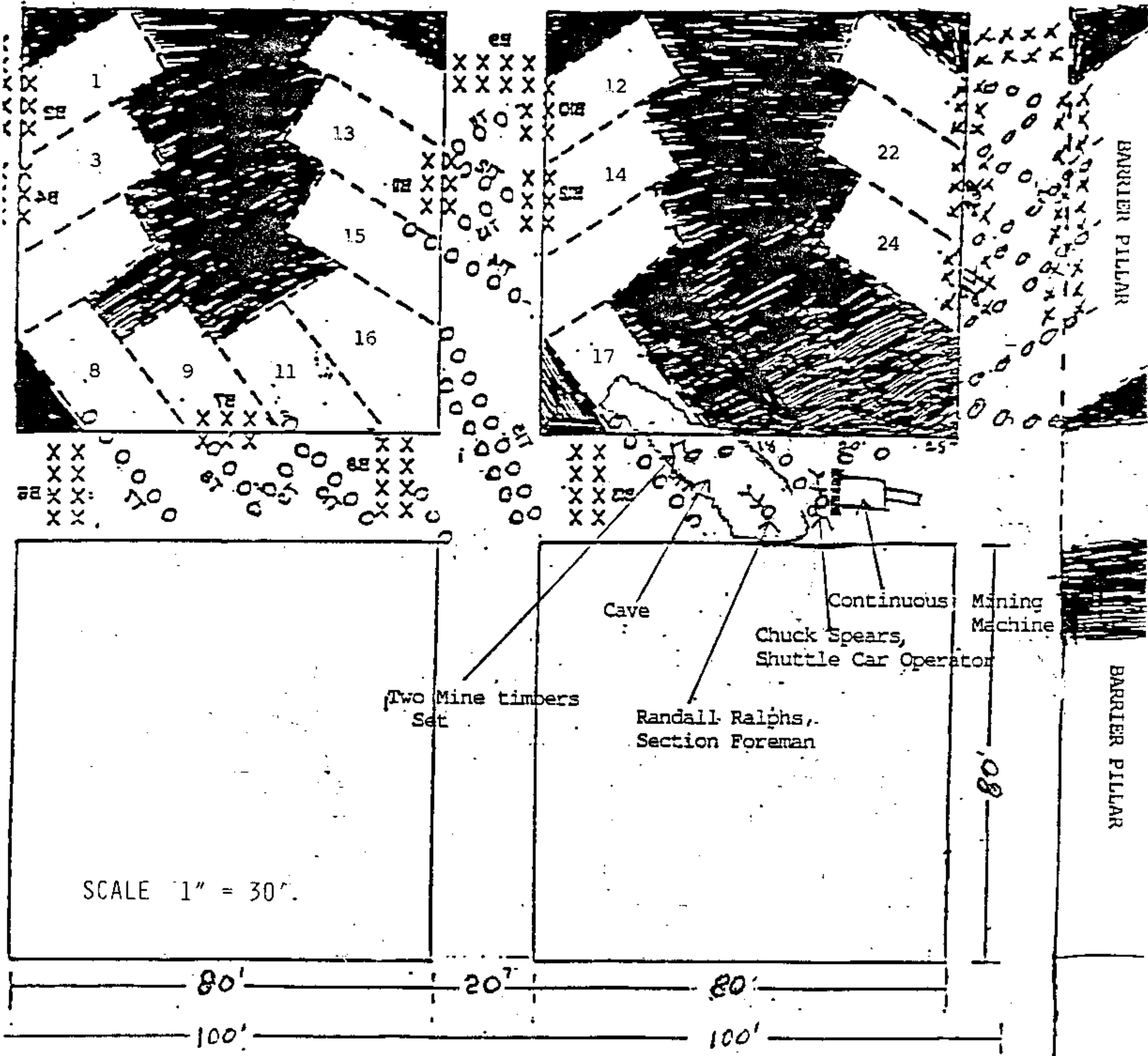
Section F—Mine Organization

Company officials:	Name	Address
19. President:	Dan Meadors	P.O. Box 1478 Price, Utah 84501
20. Superintendent:	Joseph R. Fielder	P.O. Box 550 Orangeville, Utah 84537
21. Safety Director:	Roger S. Tuttle	P.O. Box 550 Orangeville, Utah 84537
22. Principle officer—H&S:	Joseph R. Fielder	P.O. Box 550 Orangeville, Utah 84537
23. Labor Organization:	N/A	
24. Chairman—H&S Committee:	N/A	

PERIMETER EXTRACTION
PILLAR PLAN - A

NOTE: This is a mirror image of the approved plan, pg. 21.

NOT TO SCALE



NONFATAL ROOF FALL

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COMMENTARY

Wednesday, October 21, 1987, about 3:00 p.m. the 6th west crew from Beaver Creek Coal Company entered the Trail Mountain #9 Mine and traveled to the 6th west section. Randall Ralphs, section foreman, examined the pillar line and the normal work day began and continued until the first lift out of the outby end of pillar No. 17 was completed. The continuous mining machine was then backed out in preparation to take the second lift and to allow a loose hose fitting to be repaired. Ralphs, Charles Spears and Gary Sittured, shuttle car operators, stayed at the continuous mining machine to set up the face and repair the loose fitting. The remainder of the crew went to dinner. At approximately 6:30 p.m. a bounce occurred blowing out most of the No. 17 pillar, at the same time a roof fall approximately 3 feet high and 16 feet wide extending from the outby rib of the No. 16 crosscut to No. 17 pillar occurred. Ralphs and Spears were trapped in front of the continuous mining machine about 8 feet from the outby pillar under 3 feet of coal (approximately 1 foot of loose coal and 2 feet of solid coal). Spears was knocked down in front of and under the head of the continuous mining machine then covered to the waist with 3 feet of coal. At the same time the men in the dinner hole heard two large bounces and went to check on the three men at the continuous mining machine. When they arrived the only thing they could see was dust. Sittured came out of the dust and reported that Spears was covered up under the head of the continuous mining machine and Ralphs was about in the middle of the fall, both trapped men were calling for help. A row of timbers was installed between the continuous mining machine and the edge of the roof fall. Three timbers were set on the roof fall lip. Spears was uncovered, placed on a stretcher, given first aid and evacuated to the dinner hole. The roof over the fall was sounded and work began to recover Ralphs. About 6:45 p.m. Joe Fielder, mine manager; Jim Fielder, mine foreman; and Gary Curtis, maintenance foreman, arrived at the roof fall and started setting timber in the fall area. Approximately 1 hour after the accident Ralphs, was removed from under the fall, placed on a stretcher and transported to the dinner hole where EMTs started IVs and administered first aid. After stabilization the two injured persons were transferred to Emery Medical Center, Castle Dale, Utah.

The Price, Utah Subdistrict Office of the Mine Safety and Health Administration was notified at approximately 6:50 p.m. and an investigation began the following day.

DISCUSSION AND EVALUATION

The investigation revealed the following factors relevant to the occurrence of the accident:

1. The roof of the crosscut was supported during development by 6 feet resin roof bolts installed on 5 feet centers. The immediate roof and main roof consisted of 2 to 3 feet of top coal and laminated sandstone respectively.
2. The second row of pillars were being mined on mirror image sequence for the first time under a new roof control plan and no roof falls had occurred prior to the accident.

3. Two miners had started to install the row of lift timbers across the crosscut, after completing No. 17 lift, prior to starting to cut No. 18 lift of the No. 17 pillar block.
4. Because of cutting out of sequence in mirror image, the No. 17 pillar block had been mined to the left and right, plus the barrier pillar had been mined, allowing about 2000 feet of cover to be sitting on top of the small pillar stump.
5. The excessive pressure on No. 17 pillar stump bounced and/or was blown out covering Spears up to his waist. The head of the continuous mining machine had been left near the top of the mine roof about 8 feet high, thus providing some protection to Spears. Ralphs was also covered by the outburst of coal. The force of the excessive pressure sheared off 2 to 3 feet of resin bolted top coal that fell on Ralphs.
6. The bolted top coal in front of the continuous mining machine was shattered from the force of the bounce. The fall extended from the crosscut to the No. 17 lift, a distance of about 35 feet.
7. Three miners arrived at the accident scene and started to render aid to the trapped miners. The shuttle car operator was uncovered and at the same time three mine timbers were installed in front of the continuous mining machine along the lip of the top coal and two mine timbers were installed along side of the continuous mining machine.
8. About 15 minutes after the accident happened, three mine management personnel arrived at the scene and the mine manager directed that two safety timbers be installed out under the unsupported roof along the right side of the cave, near the rib line of No. 17 pillar block.
9. Recovery operations were completed approximately 1 hour after the occurrence. Both miners suffered injuries and were transported to the Emery Medical Clinic.

FINDINGS OF FACT

The company had allowed the mining sequence to be out of order causing a bounce or outburst of coal and a roof fall that severely injured two miners, a violation of the company's approved roof control plan, citation No. 2501186 was issued for a violation of 75.200.

CONCLUSION

The accident was caused by the failure of the mine operator to comply with the approved roof control plan in that the mining cycle sequence was not followed allowing a concentration of stresses on the pillar being recovered to be released.

Submitted by,

Robert L. Baker

Robert L. Baker
Coal Mine Safety & Health Inspector

Donald B. Hanna

Donald B. Hanna
Mine Safety & Health Specialist
(Roof Control)

Approved by:

Jensen L. Bishop

Jensen L. Bishop
Subdistrict Manager

APPENDIX

The investigation was conducted by the Mine Safety and Health Administration and those persons furnishing information and/or present during the investigation were:

BEAVER CREEK COAL COMPANY OFFICIALS

Joseph Fielder	Mine Manager
Jim Fielder	Mine Foreman
Gary Curtis	Maintenance Foreman

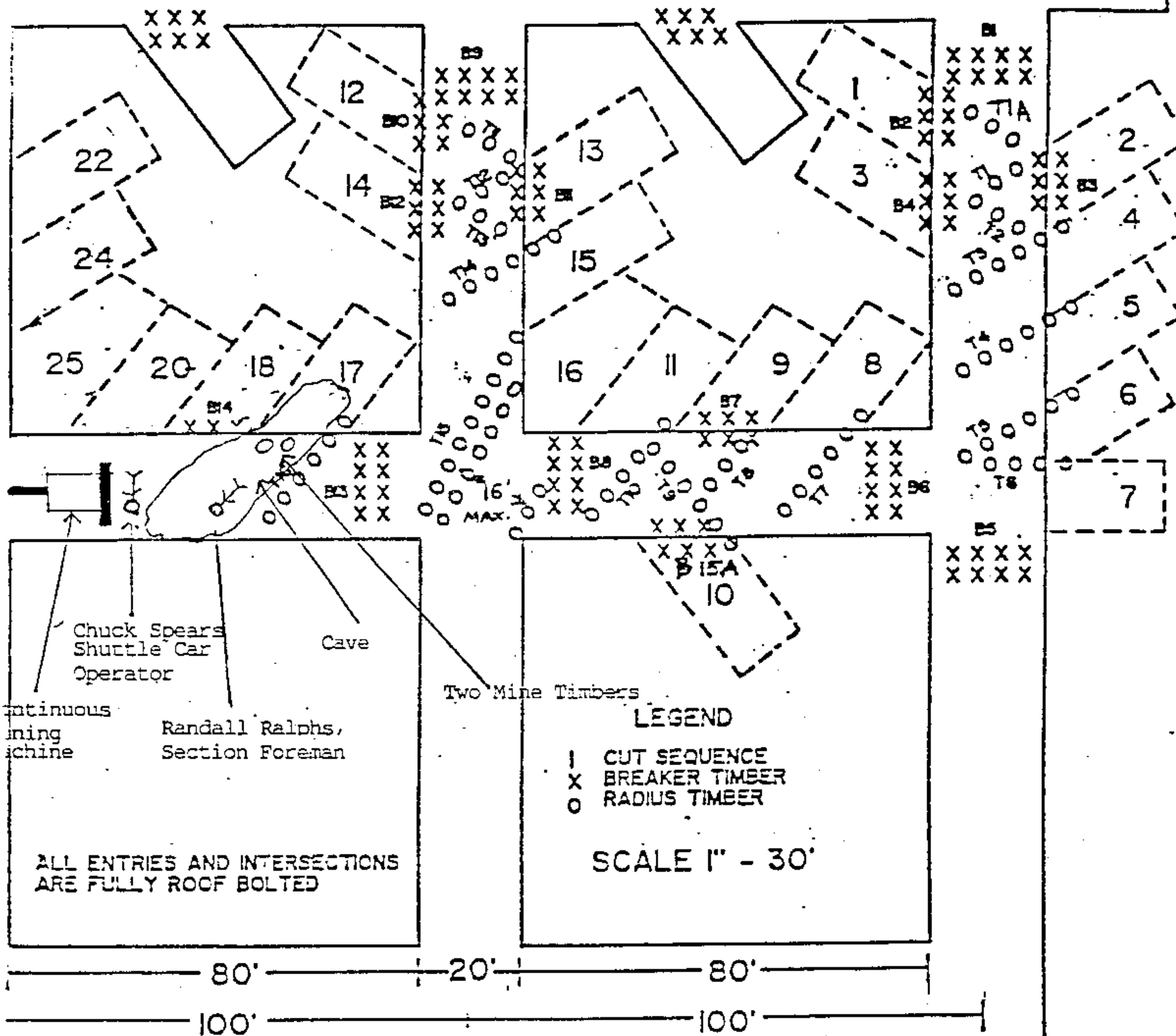
TRAIL MOUNTAIN # 9 MINE EMPLOYEES

Steve Scovill	Continuous Mining Machine Operator
Gary Sitterud	Shuttle Car Operator

MINE SAFETY AND HEALTH ADMINISTRATION

Robert L. Baker	Coal Mine Safety and Health Inspector
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PERIMETER EXTRACTION PILLAR PLAN - A



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